

PATENT
Attorney Docket No.: 125061

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: John M. Powers, et al. :
Serial No.: 10/699,320 : Art Unit: 3729
Filed: October 31, 2003 : Examiner: Sarang Afzali
For: METHOD AND APPARATUS :
FOR REBUILDING GAS :
TURBINE ENGINES :

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

1. Transmitted herewith is:
This Amendment Transmittal (3 pages)
Amendment

STATUS

2. Applicant
☐ claims small entity status.
☒ is other than a small entity.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply.

(complete (a) or (b), as applicable)

- (a) _____ Applicant petitions for an extension of time under 37 C.F.R. 1.136
(Fees: 37 C.F.R. 1.17(a)-(d) for the total number of months checked below:)

Extension for response within:	Other than small entity Fee	Small entity Fee (if applicable)
_____ first month	\$ 120.00	\$ 60.00
_____ second month	\$ 450.00	\$ 225.00

_____ third month	\$ 1,020.00	\$ 510.00
_____ fourth month	\$1,590.00	\$ 795.00
_____ fifth month	\$2,160.00	\$1,080.00

Fee: \$ _____

If an additional extension of time is required, please consider this a petition therefor.

(Check and complete the next item, if applicable)

_____ An extension of _____ months has already been secured. The fee paid therefor \$_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$_____

OR

- (b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

(Col. 1)		(Col. 2)		(Col. 3)	SMALL ENTITY	OR	OTHER THAN SMALL ENTITY
CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR		PRESENT EXTRA	ADDITIONAL RATE FEE		ADDITIONAL RATE FEE
TOTAL INDEP.		MINUS		=	x \$25.00 = \$		x \$50.00 = \$
		MINUS		=	x \$100.00 = \$		x \$200.00 = \$
FIRST PRESENTATION OF MULTIPLE DEP. CLAIM					+ \$180.00 = \$		+ \$360.00 = \$
					TOTAL ADDITIONAL FEE \$	OR	TOTAL ADDITIONAL FEE \$

- (a) ☒ No additional fee for Claims is required

OR

- (b) ☐ Total additional fee for claims required \$ _____

FEE PAYMENT

5. Attached is a check in the sum of \$ _____

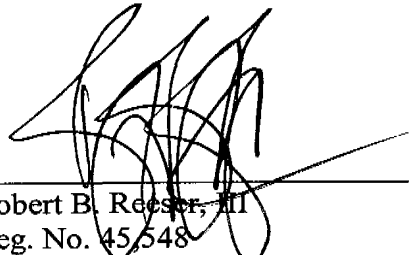
- ☐ Charge Deposit Account No. 01-2384 the sum of \$ _____.
A duplicate of this transmittal is attached.

FEE DEFICIENCY

6. ☒ If any additional extension and/or fee is required, charge Deposit Account No. 01-2384.

AND/OR

- ☒ If any additional fee for claims is required, charge Deposit Account No. 01-2384.
7. ☐ Other:



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	:	Art Unit: 3729
Serial No.: 10/699,320	:	
	:	Examiner: Sarang Afzali
Filed: October 31, 2003	:	
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AMENDMENT

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In response to the Office Action dated March 30, 2006, please amend the above-identified patent application as follows:

IN THE CLAIMS

1. (withdrawn) A method for repairing a turbine blade for a gas turbine engine, said method comprising:

securing the blade into a clamping fixture;

obtaining a zero reference from a gauging surface on the clamping fixture;

coupling the clamping fixture to a grinding machine; and

grinding the blade based on the zero reference.

2. (withdrawn) A method in accordance with Claim 1 wherein securing the blade into the clamping fixture comprises securing the blade dovetail such that at least a first datum on the dovetail is located by the fixture.

3. (withdrawn) A method in accordance with Claim 1 wherein securing the blade into the clamping fixture further comprises securing the blade such that the blade dovetail engages a locating stop.

4. (withdrawn) A method in accordance with Claim 1 wherein securing the blade into the clamping fixture further comprises positioning the blade dovetail against a pair of locator pins that each engage serrations formed on the dovetail.

5. (withdrawn) A method in accordance with Claim 1 wherein securing the blade into the clamping fixture further comprises pneumatically clamping the blade dovetail with the fixture.

6. (currently amended) An apparatus for aligning a gas turbine engine blade including a dovetail, said apparatus comprising:

at least one locator pin configured to engage a serration formed on the blade dovetail;

a locator block supporting said locator pin, said locator block comprising at least one groove sized to receive said locator pin therein; and

a slide block assembly for engaging a dovetail surface opposite the serration, said slide block assembly configured to position the blade dovetail against said locator pin; and

a base member comprising a platform comprising an end plate and an upper surface for supporting said slide block assembly and said locator block, said slide block assembly is slidably coupled to said platform upper surface.

7. (currently amended) An apparatus in accordance with Claim 6 ~~further comprising a base member comprising a platform comprising an end plate and an upper surface for supporting said slide block assembly and said locator block,~~ wherein said end plate ~~extending~~ extends from said platform upper surface.

8. (original) An apparatus in accordance with Claim 7 wherein said platform further comprises a slot defined therein for providing access to the turbine blade.

9. (original) An apparatus in accordance with Claim 7 wherein said slide block assembly is movable between a first position wherein the blade dovetail is removable from the slide block assembly, and a second position, wherein the blade dovetail is secured to the slide block assembly.

10. (original) An apparatus in accordance with Claim 7 wherein said at least one locator pin further comprises a pair of opposed pins configured to retain the blade dovetail therebetween.

11. (original) An apparatus in accordance with Claim 7 wherein said slide block assembly comprises a push block for engaging, the dovetail surface opposite the serration, said push block configured to limit an amount of travel of said slide block.

12. (original) An apparatus in accordance with Claim 7 further comprising a drive mechanism coupled to said end plate and said slide block for positioning said slide block.

13. (original) An apparatus in accordance with Claim 12 wherein said drive mechanism comprises a pneumatic cylinder.

14. (original) An apparatus in accordance with Claim 6 further comprising a gauge plate coupled to said locator block for positioning the turbine blade relative to said apparatus, said gauge plate comprising a gauge set block for providing a zero reference point.

15. (original) An apparatus in accordance with Claim 6 wherein said locator pin comprises a first end, second end, and a clamping section extending therebetween, said clamping section having a length that is substantially equal to a length of the blade dovetail.

16. (original) An apparatus in accordance with Claim 6 further comprising a locator plate comprising a stop for positioning the blade dovetail in said apparatus.

17. (withdrawn-currently amended) A tool for securing a turbine blade including a dovetail, said tool comprising:

a pair of locator pins configured to engage adjacent serrations defined in the turbine blade, each said locator pin comprising a first end, a second end, and a clamping section extending therebetween, said clamping section having a length that is substantially equal to a length of the blade dovetail;

a locator block supporting said locator pins, said locator block comprising a plurality of grooves to receive each said locator pin therein; ~~and~~

a slide block assembly configured to engage the blade dovetail opposite said locator pins such that the blade dovetail is secured in said tool by said locator pins; and

a base member comprising a platform comprising an end plate and an upper surface for supporting said slide block assembly and said locator block, said slide block assembly is slidably coupled to said platform upper surface.

18. (original) A tool in accordance with Claim 17 further comprising a gauge plate coupled to said locator block for locating the turbine blade relative to said apparatus, said gauge plate comprising a gauge set block for providing a zero reference point.

19. (original) A tool in accordance with Claim 17 further comprising a base member comprising a platform comprising an upper surface for supporting said slide block assembly and said locator block, and an end plate, said end plate extending from said platform upper surface.

20. (original) A tool in accordance with Claim 19 wherein said slide block assembly is movable between a first position wherein the blade dovetail is removable from the tool, and a second position wherein the blade dovetail is secured within the tool and between said locator pins and said slide block assembly.

Remarks

The Office Action mailed March 30, 2006 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 6-16 stand rejected. Claims 17-20 have been withdrawn.

Reconsideration of the restriction requirement imposed under 35 U.S.C. § 121 is respectfully requested.

A restriction to either (1) Group I, consisting of Claims 1-5 drawn to a method of repairing a turbine blade for a gas turbine engine, classified in Class 29, subclass 889.1; (2) Group II, consisting of Claims 6-16, drawn to an apparatus for aligning a gas turbine engine blade, classified in Class 29, subclass 464; and (3) Group III, consisting of Claims 17-20, drawn to a tool for securing a turbine blade, classified in Class 29, subclass 559. In response, Applicants confirm the telephone election with traverse to prosecute the invention of Group II, Claims 6-16, was imposed.

The requirement for election is traversed because the inventions set out by the claims in Groups I, II and III are clearly related. Applicants submit that a thorough search and examination of either Group would be relevant to the examination of the other Groups and would not be a serious burden on the Examiner. Additionally, requirements for election are not mandatory under 35 U.S.C. § 121. Accordingly, reconsideration of the restriction requirement is respectfully requested.

The rejection of Claims 6-7 under 35 U.S.C. § 102(b) as being anticipated by Brenning (U.S. Patent 3,331,166) ("Brenning") is respectfully traversed.

Brenning describes a jig for supporting and repairing a turbine blade (A). The jig includes front and rear wedge-shaped splines (18 and 19), a supporting block (F) that supports the splines (18 and 19), toggle clamps (K and K'), and a base (17) having an upper surface for supporting the supporting block (F) and the toggle clamps (K and K'). Each

toggle clamp (K and K') includes a clamping arm (32) having an adjustable stud (33). Each adjustable stud (33) is designed to bear against an inner section of the blade (A). Each clamping arm (32) is swingably coupled by a journal pin (34) that is fixedly secured to a bracket (35). Further, the bracket (35) is securely coupled to the supporting block (F). Notably, the clamping arm (32) is **not slidably coupled** to the upper surface of the base (17), but rather each clamping arm (32) is fixedly secured to the base upper surface via the fixed supporting block (F).

Claim 6 recites an apparatus for aligning a gas turbine engine blade including a dovetail in which the apparatus includes "a slide block assembly for engaging a dovetail surface . . . said slide block assembly configured to position the blade dovetail against said locator pin . . . a base member comprising a platform comprising an end plate and an upper surface for supporting said slide block assembly and said locator block . . . said slide block assembly is slidably coupled to said platform upper surface.

Brenning does not describe nor suggest an apparatus for aligning a gas turbine engine blade as is recited in Claim 6. Specifically, Brenning does not describe nor suggest an apparatus including a slide block assembly configured to position a blade dovetail against a locator pin, wherein the slide block assembly is slidably coupled to a platform. Rather, in contrast to the present invention, Brenning describes a clamping arm (32) that is fixedly secured to the base 17, and that does not position the blade dovetail against a locator pin. Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Brenning.

Claim 7 depends directly from Claim 6. When the recitation of Claim 7 is considered in combination with the recitation of Claim 6, Applicants submit that dependent Claim 7 likewise is patentable over Brenning.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 6 and 7 be withdrawn.

The rejection of Claims 6-16 under 35 U.S.C. § 103(a) as being unpatentable over Wah (U.S. Patent 6,792,655) (“Wah”) in view of Arrigoni (U.S. Patent 4,285,108) (“Arrigoni”) is respectfully traversed.

The Office Action uses Wah as basis for a Section 103 rejection. However, Wah is only available as prior art under § 102(e). Wah was filed on November 9, 2001 and patented on September 21, 2004. The present application was filed on October 31, 2003. Under 35 U.S.C. § 103(c), Wah is disqualified as prior art against the present application because the subject matter of Wah and the present application “were at the time the invention was made, owned by the same person and subject to an obligation of assignment to the same person.” Therefore, the rejection under 35 U.S.C. § 103(a) is improper.

Accordingly, for at least the reasons set forth above, Claim 6 is submitted to be patentable over Wah in view of Arrigoni.

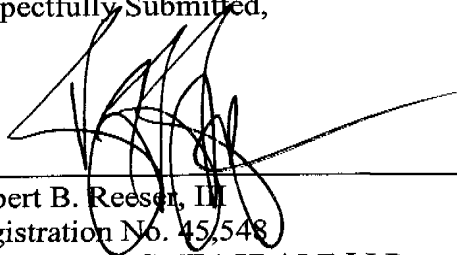
Claims 7-16 depend, directly or indirectly, from independent Claim 6. When the recitations of Claims 7-16 are considered in combination with the recitations of Claim 6, Applicants submit that dependent Claims 7-16 likewise are patentable over Wah in view of Arrigoni.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 6-16 be withdrawn.

Claims 17-20 have been withdrawn from consideration. However, Claim 17 includes similar features as recited in Claim 6. Claims 18-20 depend from Claim 17. Therefore, Claims 17-20 are also respectfully submitted as patentable over the applied art for at least the reasons discussed above with respect to Claim 6. Thus, it is respectfully requested that Claims 17-20 be rejoined upon allowance of Claim 6.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Robert B. Reeser, III', is written over a horizontal line.

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